2024 North Carolina State Infrastructure Report (January 1, 2024 – December 31, 2024)

June 2025

This report reflects information for the portion of North Carolina within the PJM service territory.

Table of Contents

In the North Carolina service territory:

Existing Capacity:	• In the North Carolina portion of PJM, solar represents 58% of the total installed capacity, hydro represents 25%, and natural gas 13%. • In PJM, natural gas and coal are 49% and 21% of total installed capacity.
Interconnection Requests:	• Solar represents 95% of new interconnection requests while hybrid resources represent 5% of new requests.
Deactivations:	North Carolina had no generators deactivate or give a notice of deactivation in 2024.
RTEP 2024:	North Carolina's 2024 RTEP project total represents approximately $194.47 million in investment.

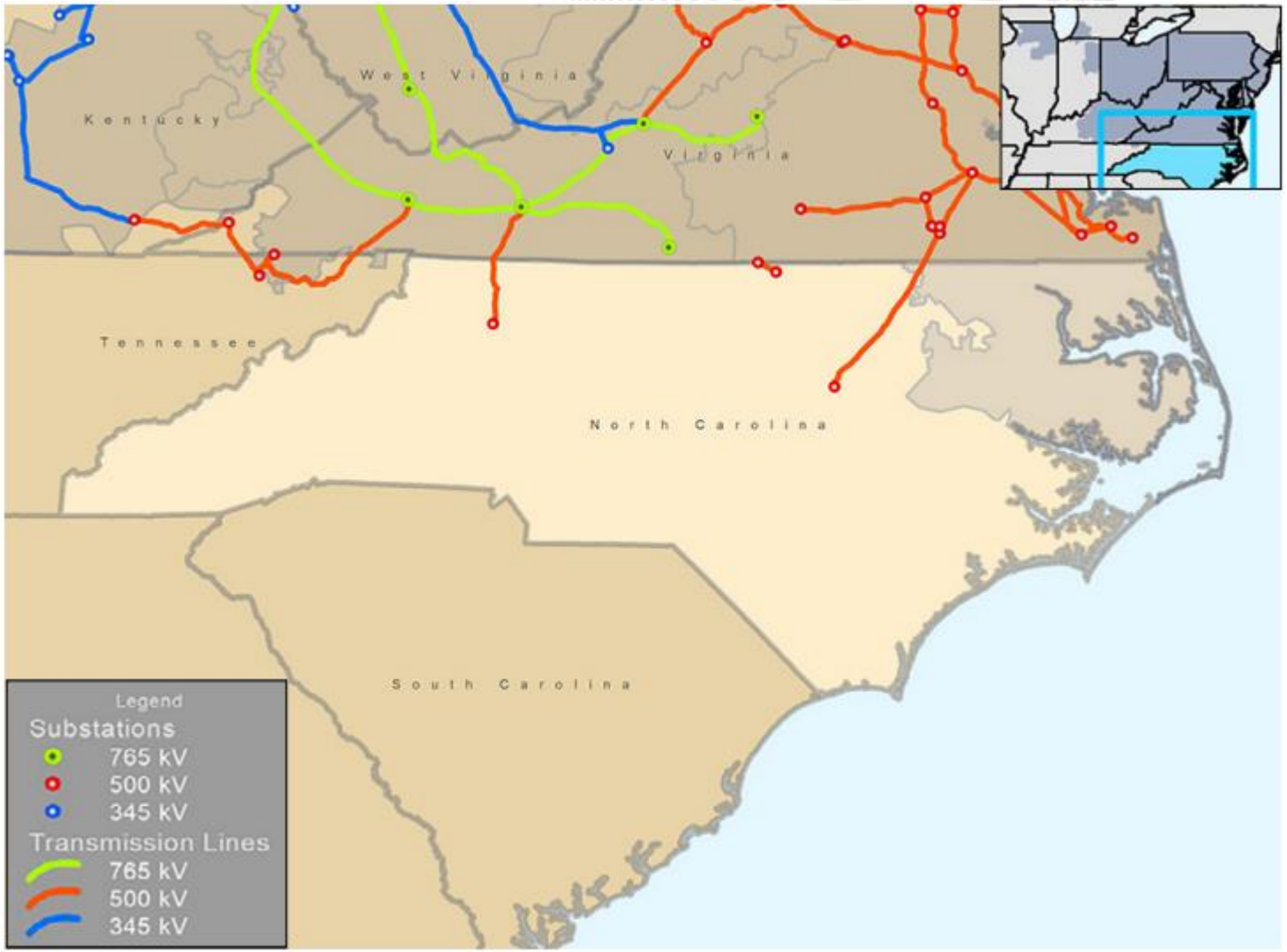
Executive Summary

2024 North Carolina State Infrastructure Report

In the North Carolina service territory:

Load Forecast:	North Carolina's summer peak load is projected to increase by 0.5% annually over the next ten years, while the winter peak is projected to increase by 0.6%.
Capacity Market:	North Carolina's service territory cleared at the Dominion Zone clearing price, $444.26, for the 2025/2026 Base Residual Auction.
Market Performance:	North Carolina's average hourly LMPs were generally lower than the PJM average hourly LMP.

PJM Service Area in North Carolina



The PJM service area in North Carolina is the Dominion zone and is represented by the shaded portion of the map.

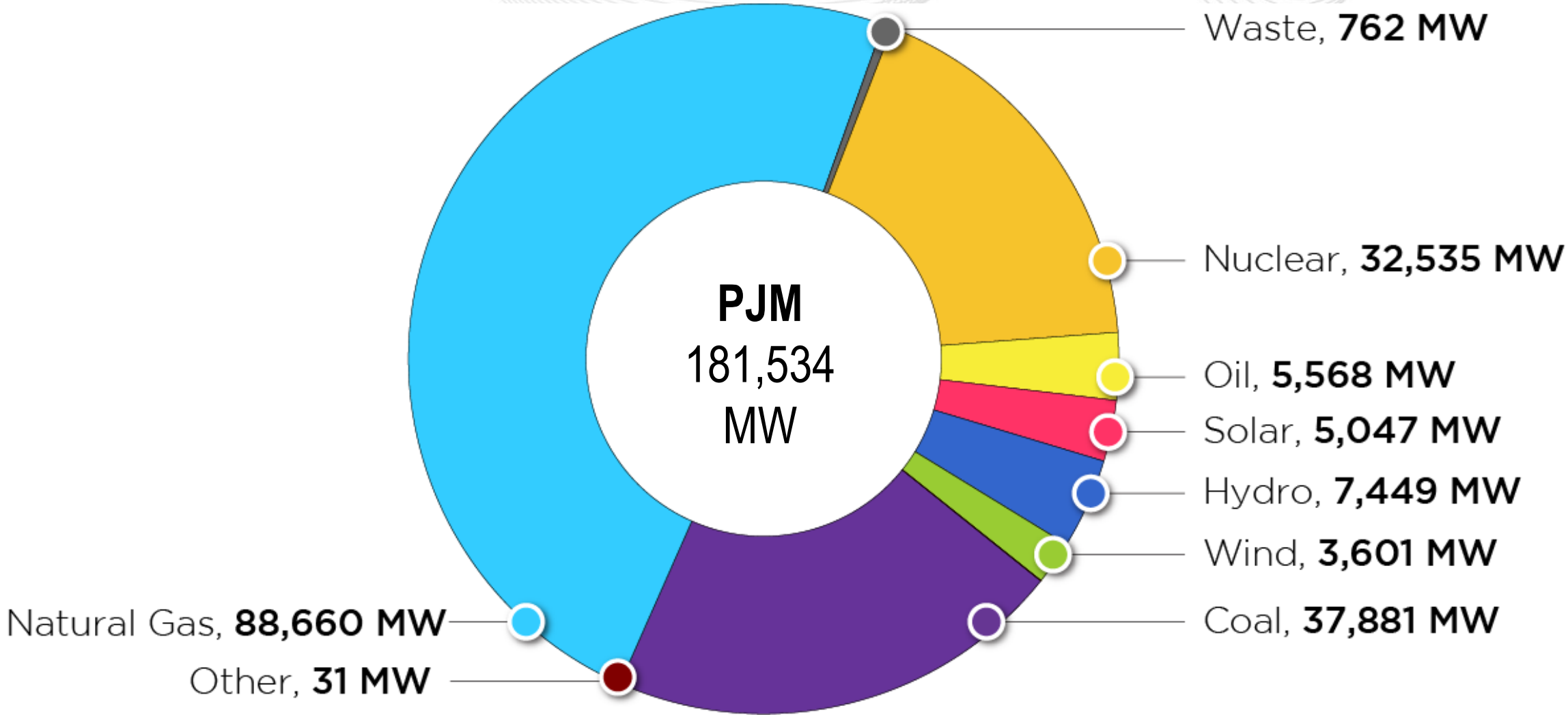
PJM operates transmission lines that extend beyond the service territory.

Planning

Generation Portfolio Analysis

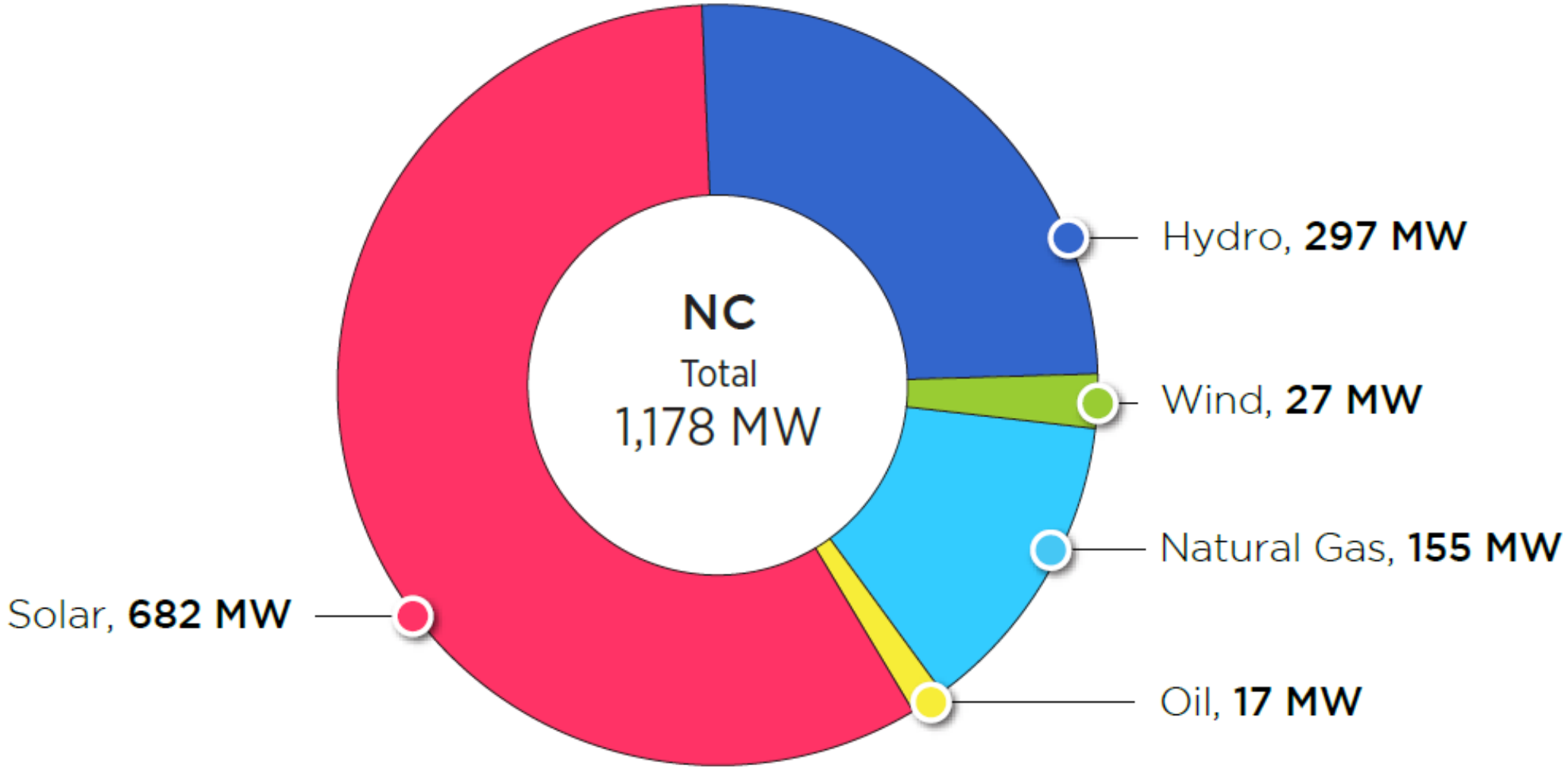
PJM Existing Installed Capacity Mix

(CIRs – as of Dec. 31, 2024)



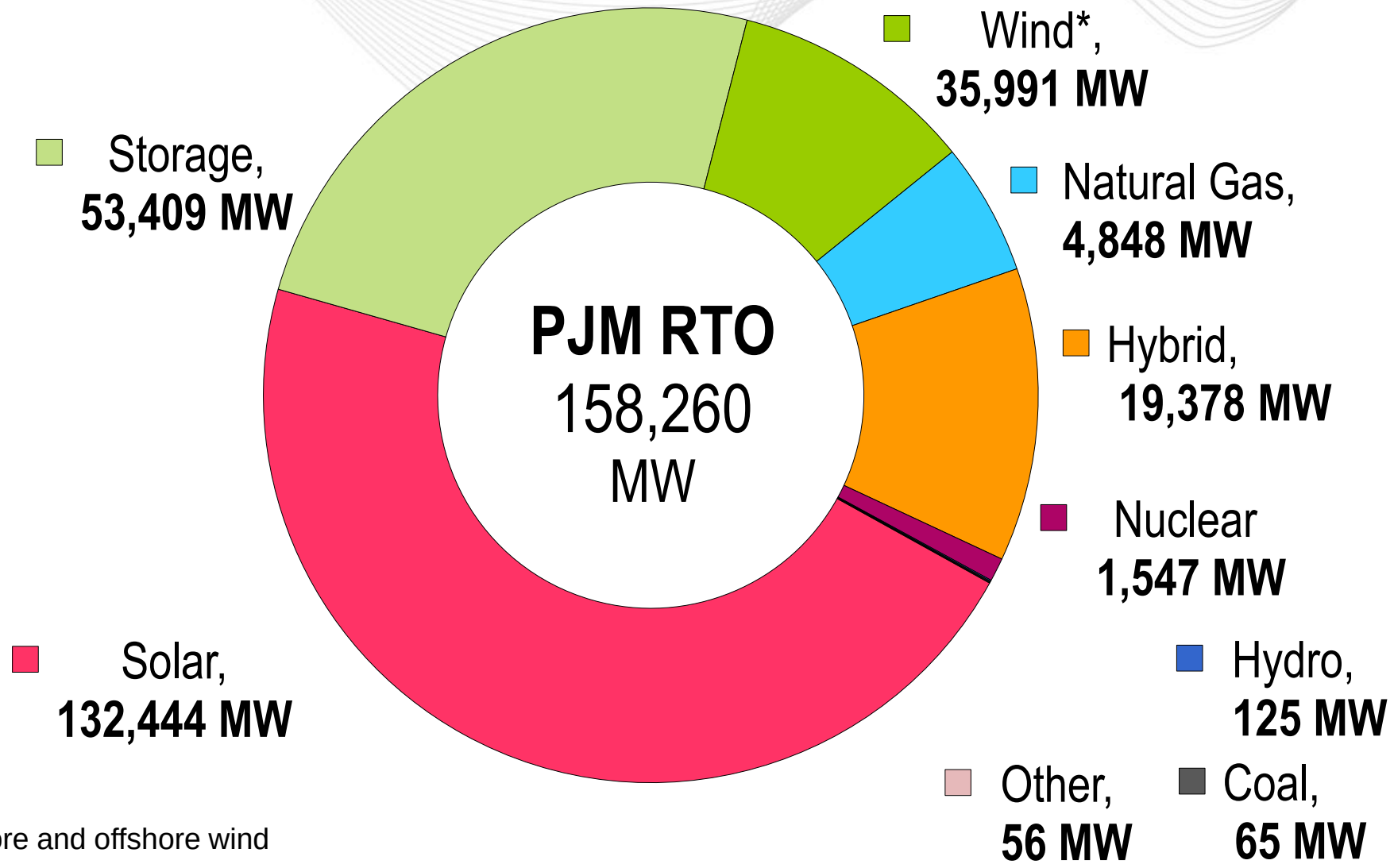
North Carolina – Existing Installed Capacity (MW) by Fuel Type

(CIRs- as of Dec. 31, 2024)



PJM Queued Capacity (Nameplate) by Fuel Type

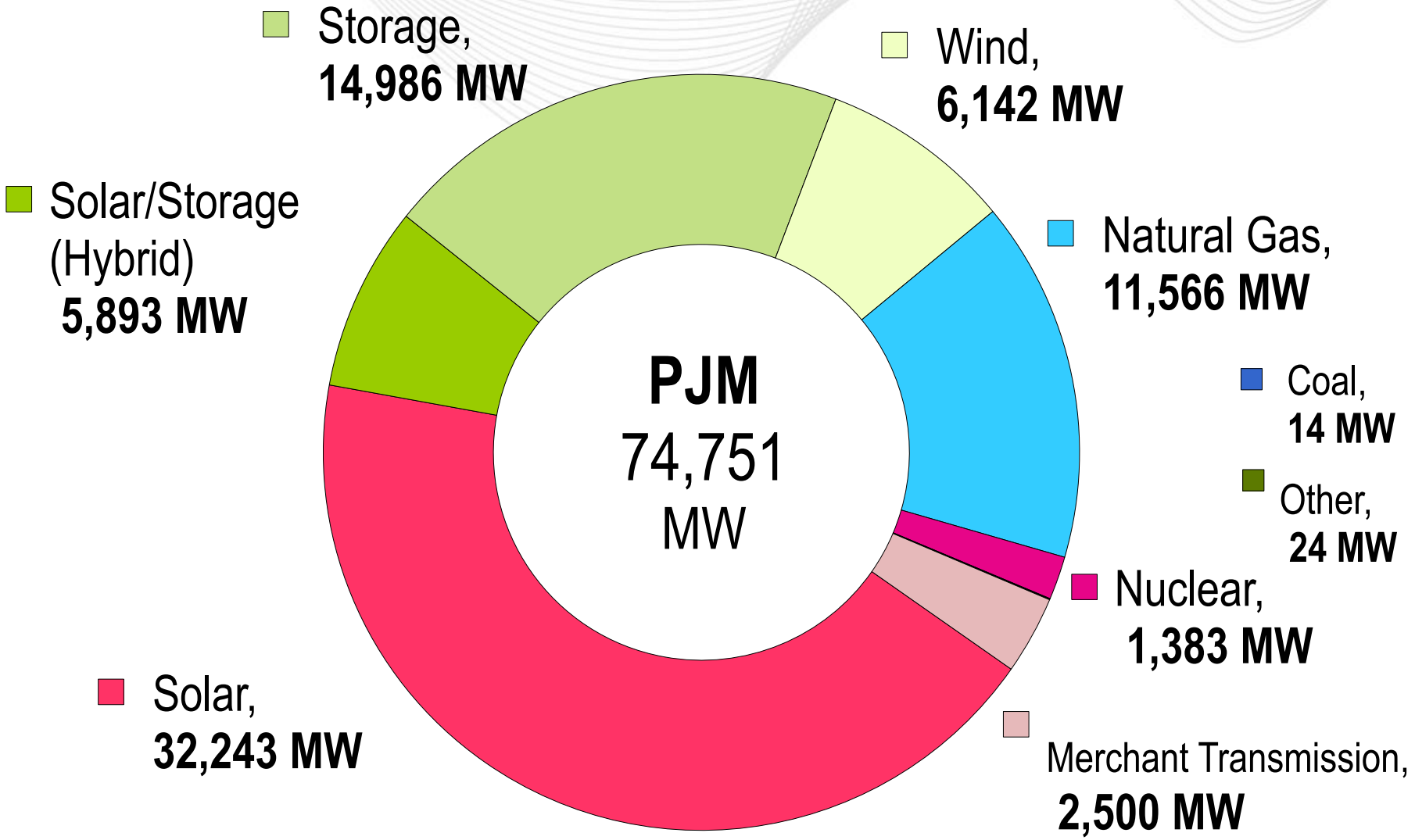
(All “Active” projects and projects with an interconnection agreement but not yet in service, as of May 7, 2025)



*Wind includes both onshore and offshore wind

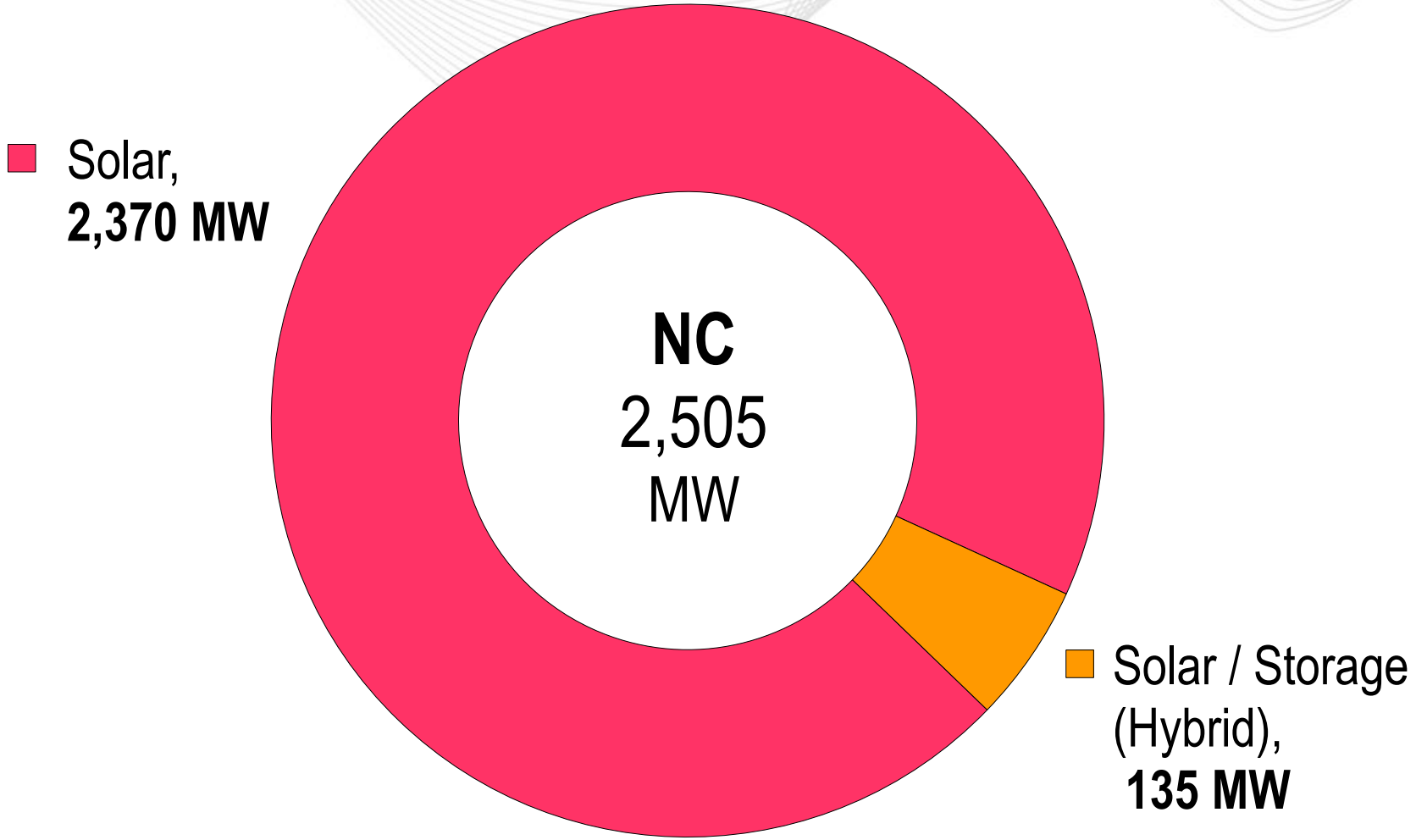
PJM Interconnection Queue Transition

Projects remaining in Transition Cycle 1 and Transition Cycle 2, including projects selected through the Reliability Resource Initiative (June 2025)



North Carolina Queued Capacity (Nameplate) by Fuel Type

(All “Active” projects and projects with an interconnection agreement but not yet in service, as of May 7, 2025)



North Carolina – 2024 Generator Deactivations

North Carolina had no generators deactivate or give a notice of deactivation in 2024.

Planning

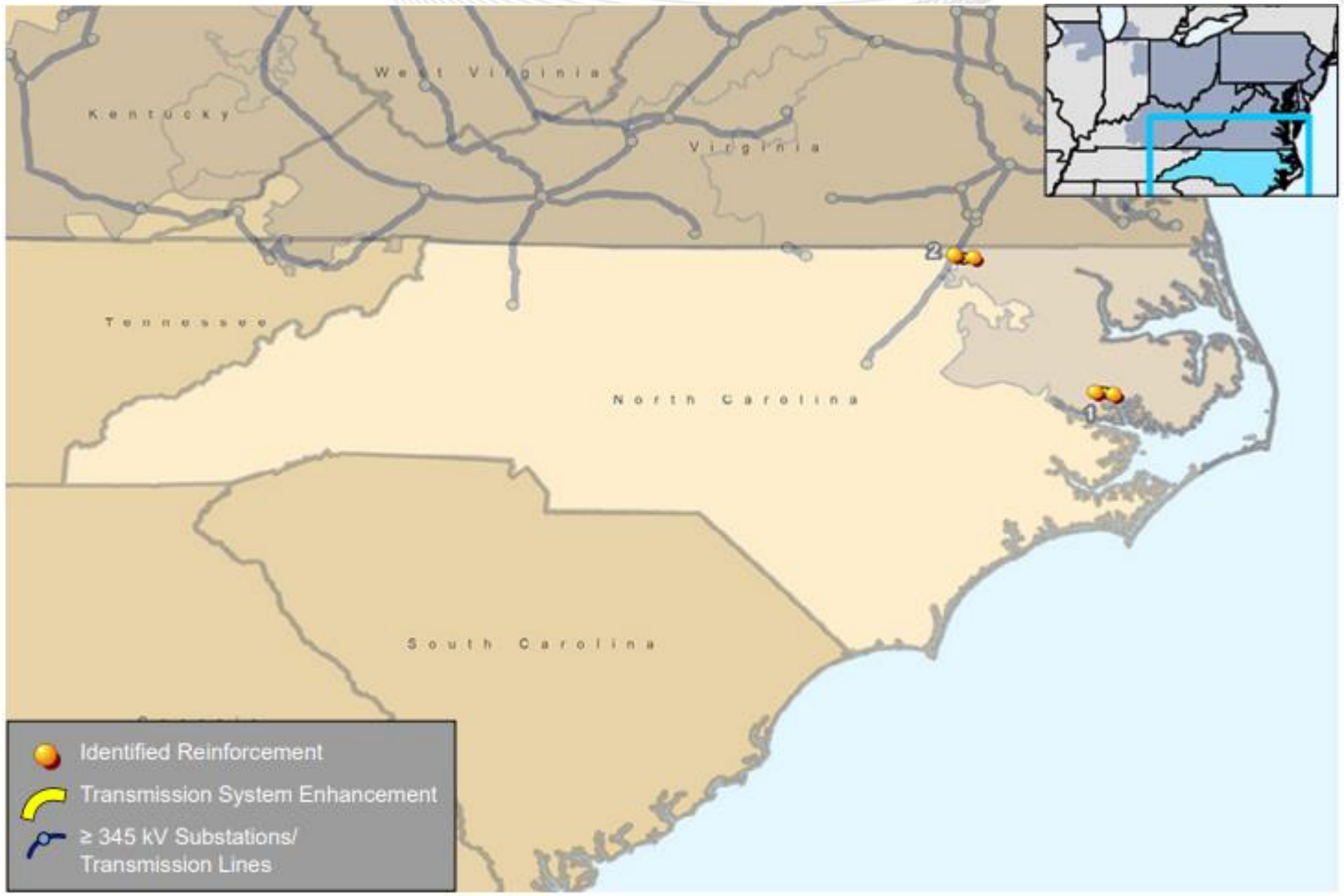
Transmission Infrastructure Analysis

For reporting purposes, the 2024 state infrastructure reports provide maps displaying all baseline, network, and supplemental projects for the respective state. The reports also include aggregated project costs for each type of project within each state. The costs listed in the state infrastructure reports and 2024 Annual RTEP Report are not indicative of each project's cost allocation.

For a detailed list of each project shown on a state's project map, please see that state's section in the **2024 Annual RTEP Report** on PJM.com: https://www.pjm.com/-/media/DotCom/library/reports-notices/2024-rtep/2024-rtep-report.pdf

The complete list of all RTEP projects in PJM, including those from prior years, can be found at the **RTEP Upgrades & Status – Transmission Construction Status** page on PJM.com: https://www.pjm.com/planning/m/project-construction.

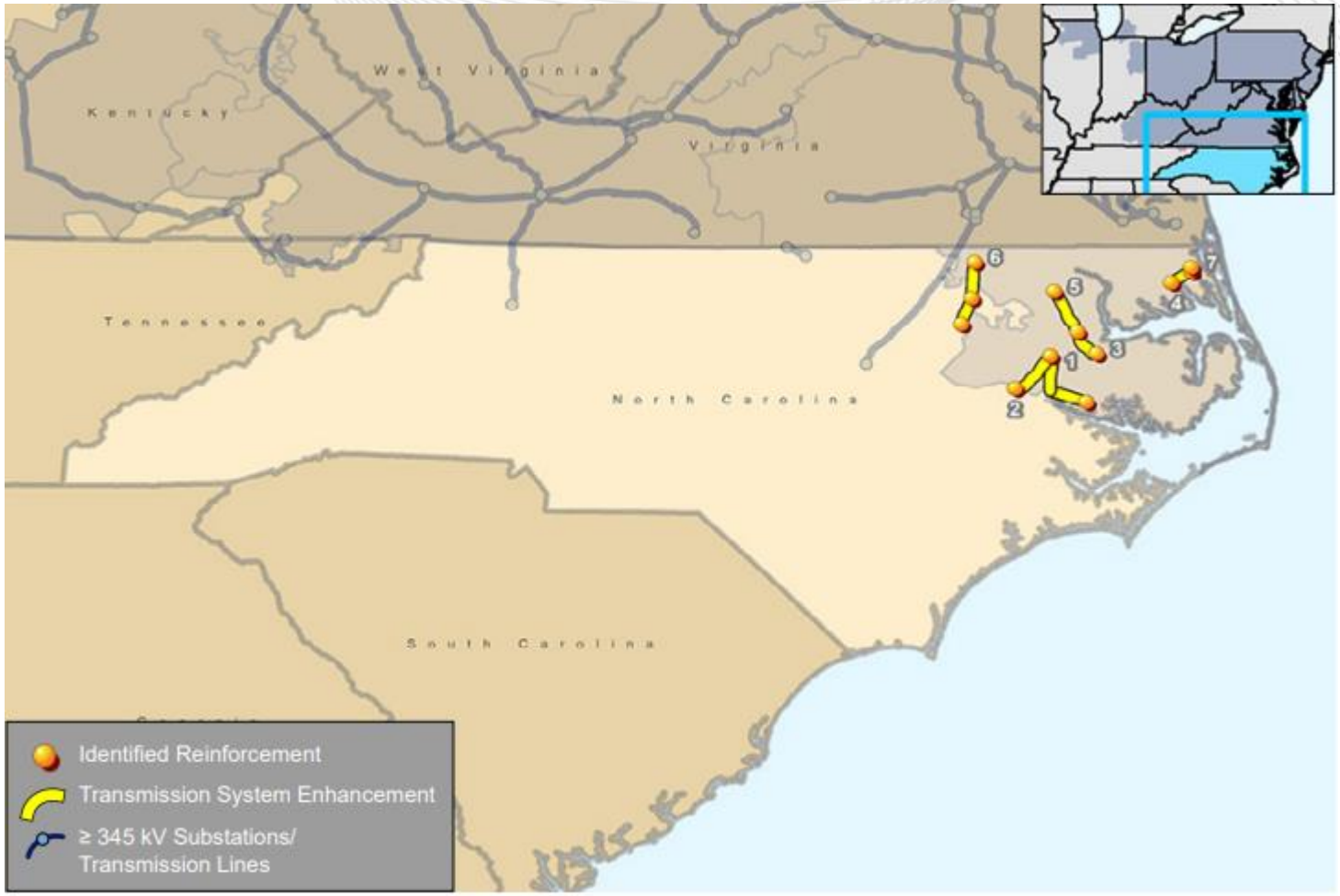
North Carolina – RTEP Baseline Projects



The 2024 RTEP has $78.08 million in baseline projects located in North Carolina.

Note: Baseline upgrades are those that resolve a system reliability criteria violation. Baseline projects listed in the annual RTEP report reflect project costs within a specific location and are not indicative of the project's cost allocation.

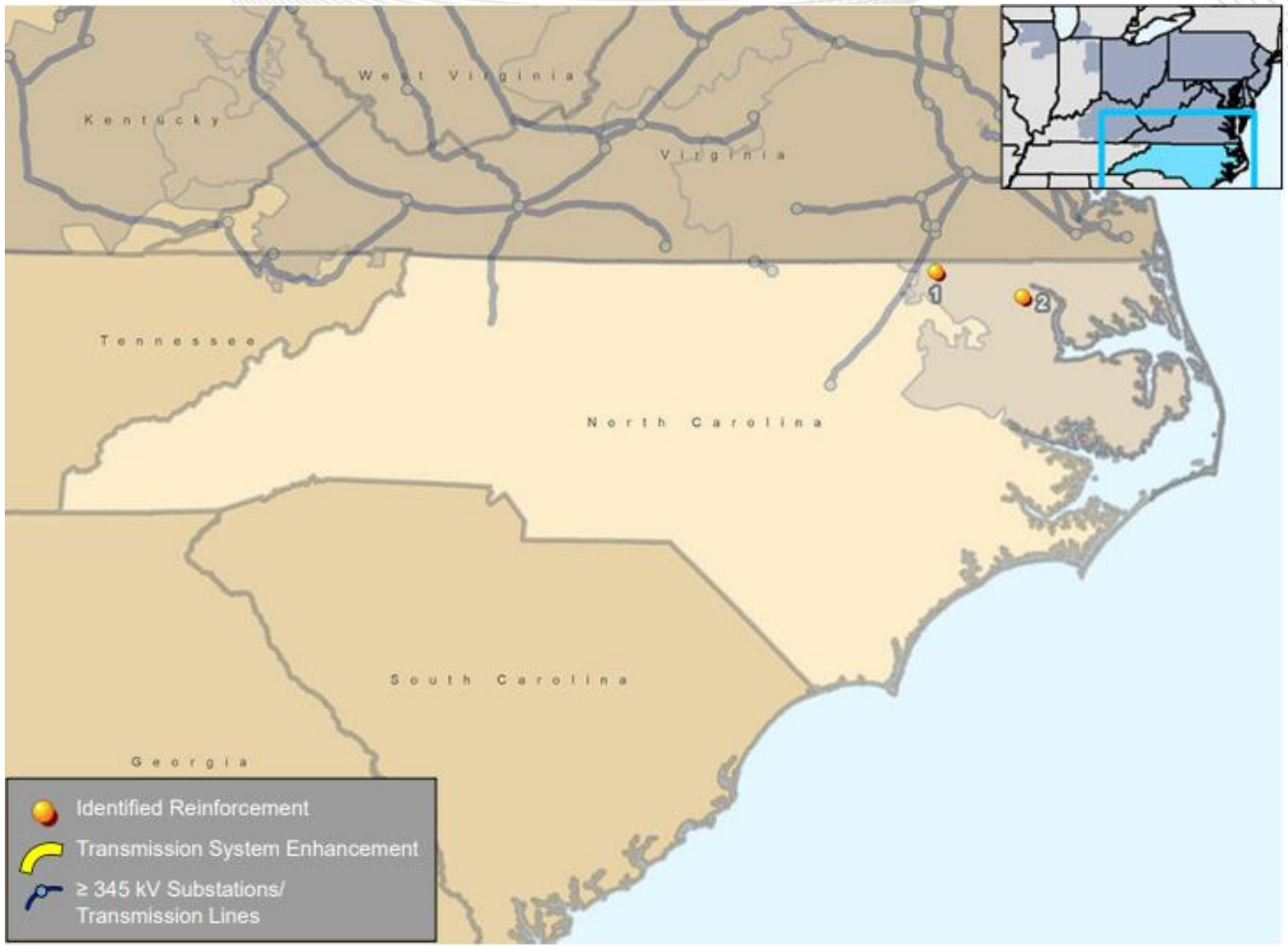
North Carolina Network Projects



The 2024 RTEP has $103.99 million in network projects located in North Carolina.

Note: Network projects are new or upgraded facilities required primarily to eliminate reliability criteria violations caused by proposed generation, merchant transmission or long-term firm transmission service requests, as well as certain direct connection facilities required to interconnect proposed generation projects. The costs of network projects are borne by the interconnection customer.

North Carolina Supplemental Projects

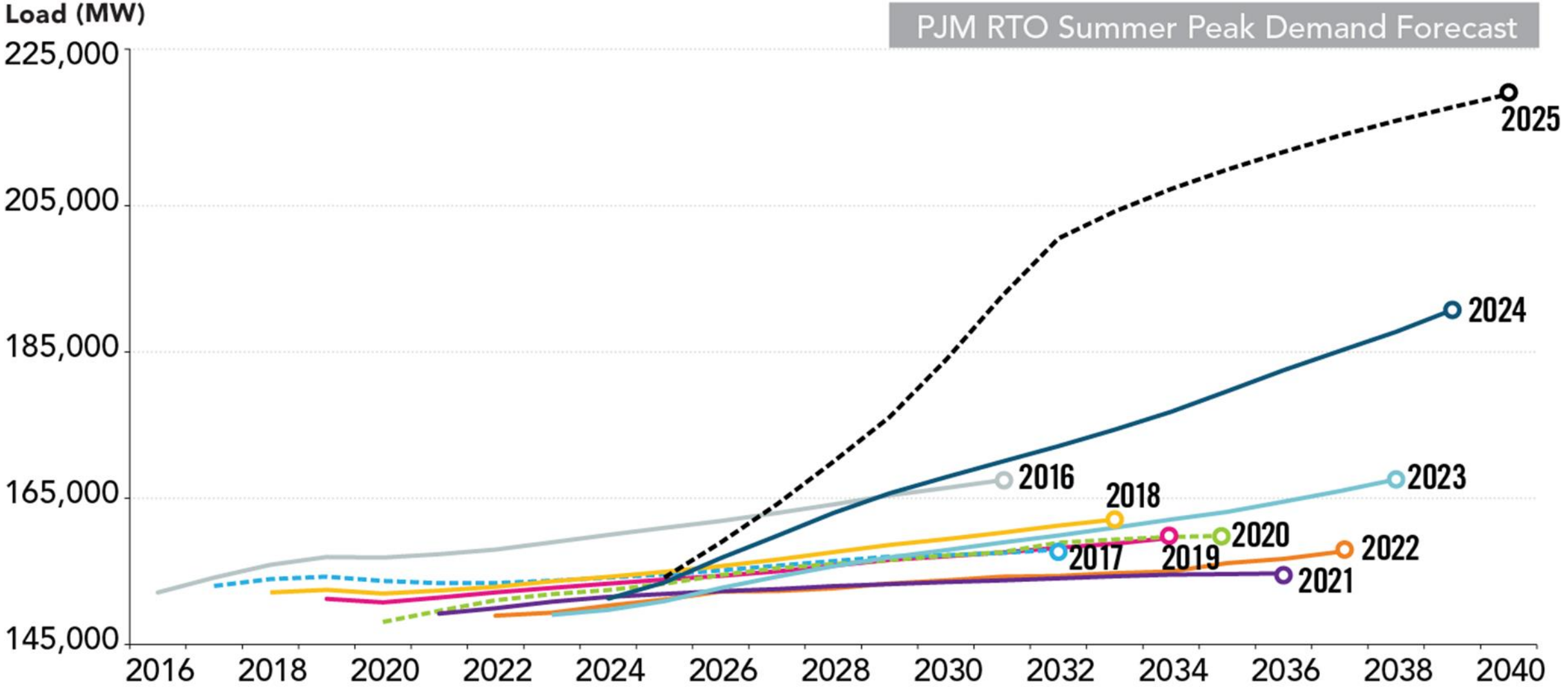


The 2024 RTEP has $12.40 million in supplemental projects located in North Carolina.

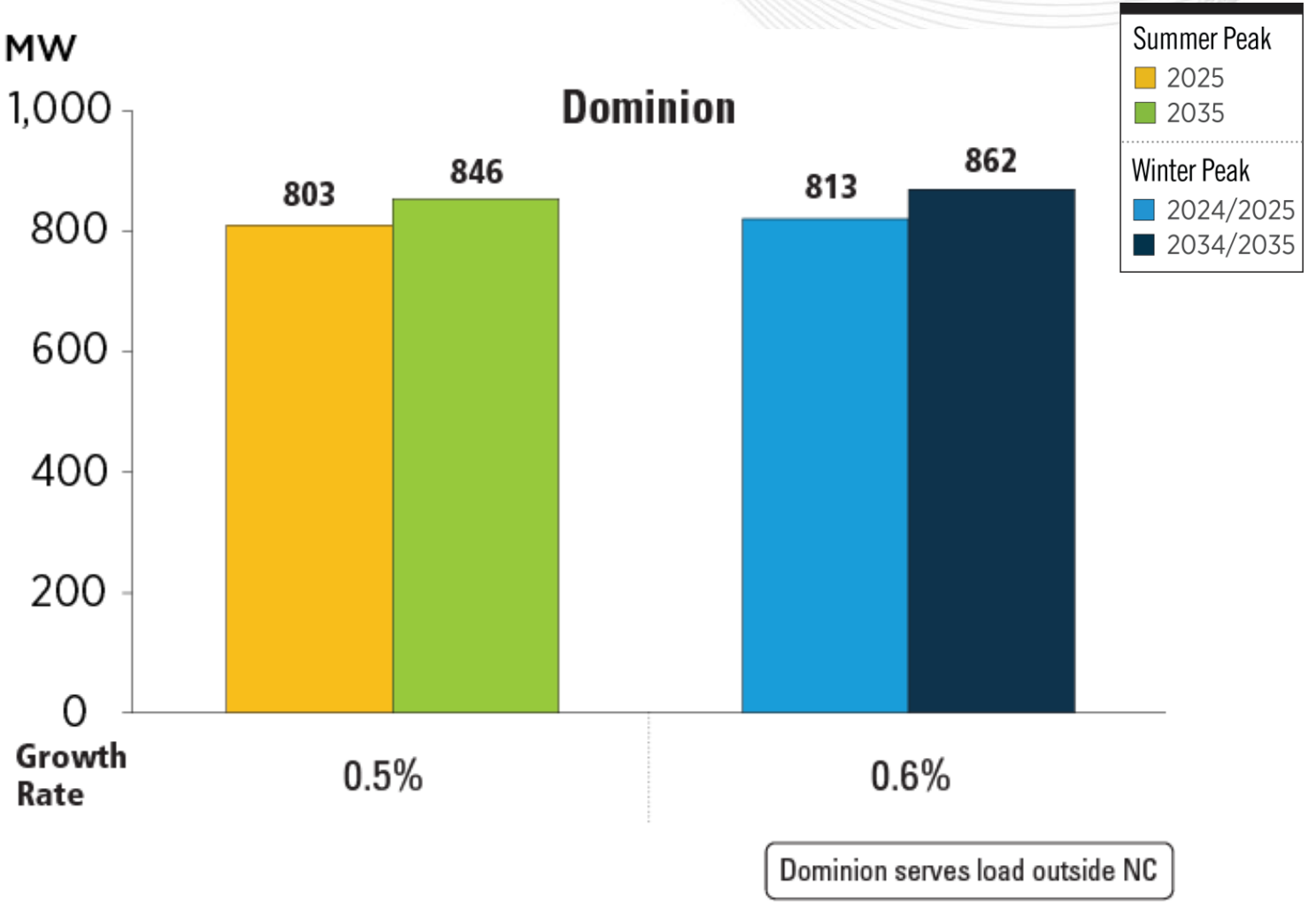
Note: Supplemental projects are transmission expansions or enhancements that are not required for compliance with PJM criteria and are not state public policy projects according to the PJM Operating Agreement. These projects are used as inputs to RTEP models, but are not required for reliability, economic efficiency or operational performance criteria, as determined by PJM.

Planning
Load Forecast

PJM Electricity Demand Growth



North Carolina – 2025 Load Forecast Report



PJM RTO Summer Peak

2025	2035
154,144 MW	209,923 MW

Growth Rate 3.1%

PJM RTO Winter Peak

2024/2025	2034/2035
136,127 MW	198,175 MW

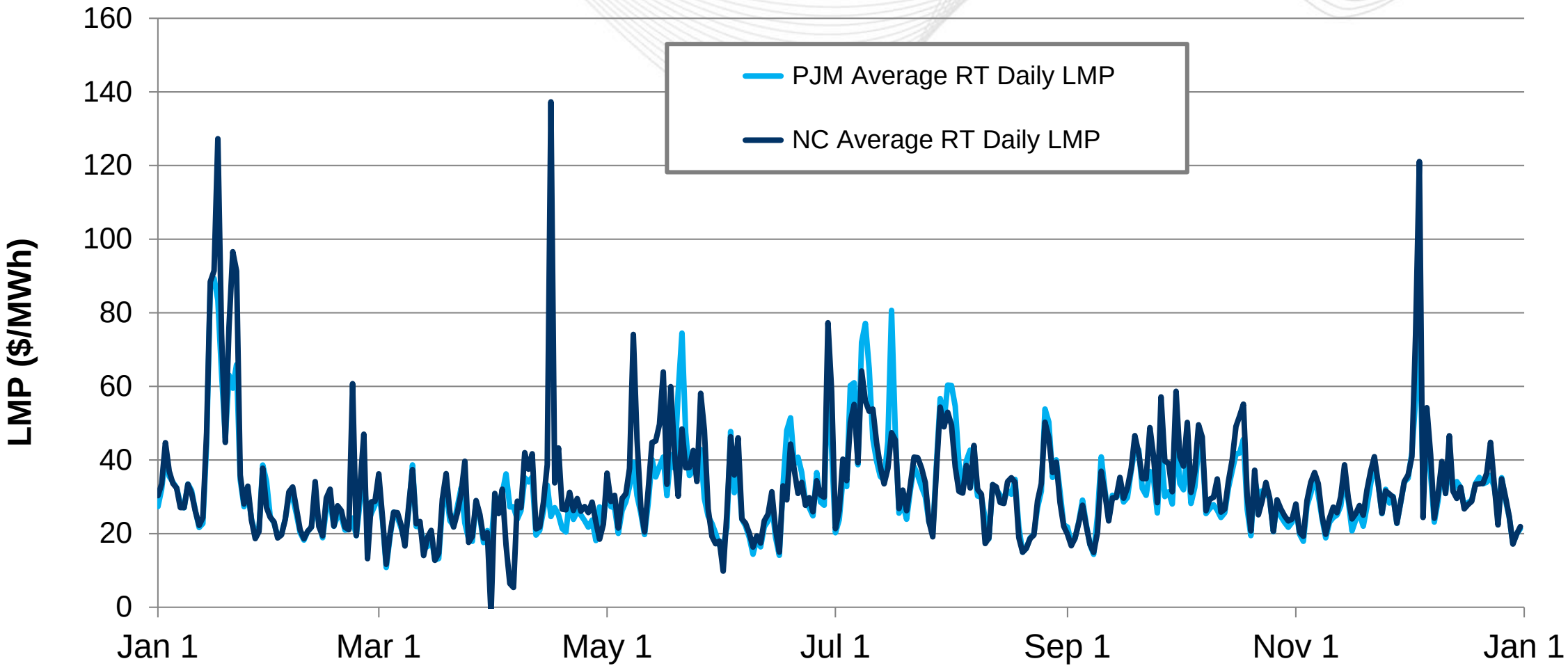
Growth Rate 3.8%

The summer and winter peak megawatt values reflect the estimated amount of forecast load to be served by each transmission owner in the noted state/district. Estimated amounts were calculated based on the average share of each transmission owner's real-time summer and winter peak load in those areas over the past five years.

Markets
Market Analysis

North Carolina – Average Daily LMP

(Jan. 1, 2024 – Dec. 31, 2024)

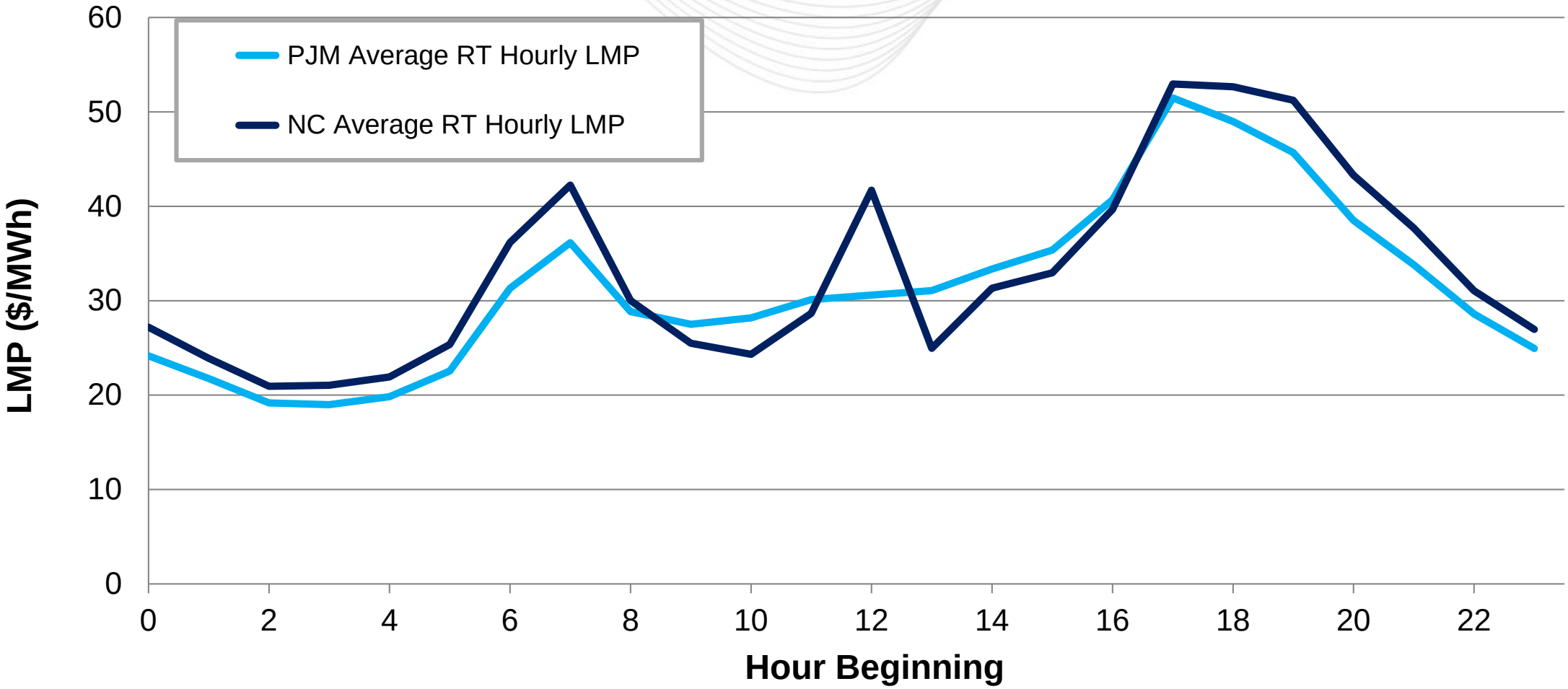


Note: North Carolina had a negative average LMP on March 31.

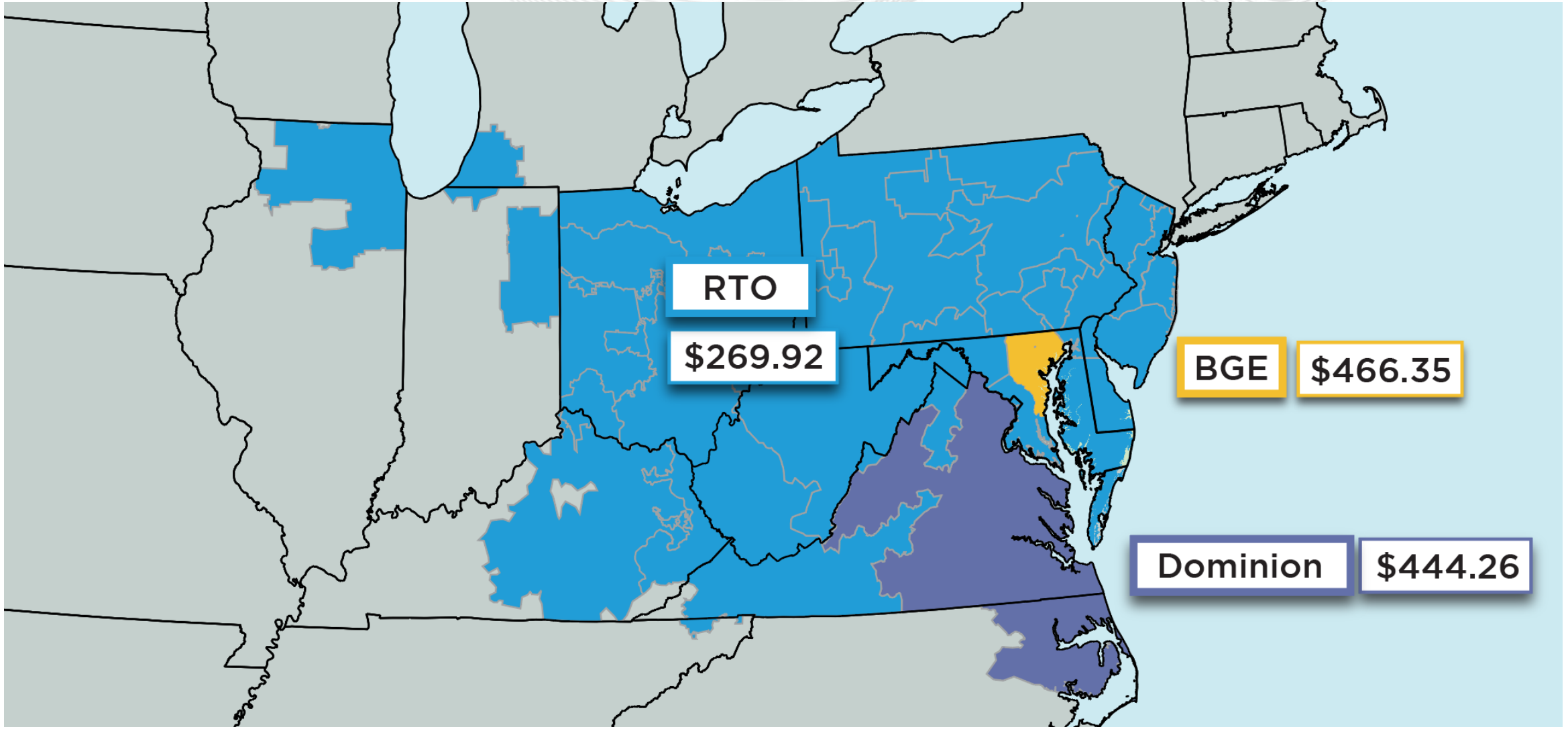
North Carolina – Average Hourly LMP

(Jan. 1, 2024 – Dec. 31, 2024)

North Carolina's average hourly LMPs were generally higher than the PJM average hourly LMP.



2025/26 Base Residual Auction Clearing Prices ($/MW-Day)



2025/2026 BRA Final Clearing Prices and MW Quantities

(Unforced Capacity)

LDA	Offered MW*	Cleared MW**	Clearing Price
DOM	20,100.2	20,049.6	$444.26
BGE	612.9	606.9	$466.35
RTO	137,152.1	135,684.0	$269.92

** Offered MW values include Annual, Summer-Period, and Winter-Period Capacity Performance sell offers.*

*** Cleared MW values include Annual and matched Seasonal Capacity Performance sell offers within the LDA.*

Locational Price Adder is with respect to the immediate parent LDA

2025/2026 Cleared MW (UCAP) by Resource Type

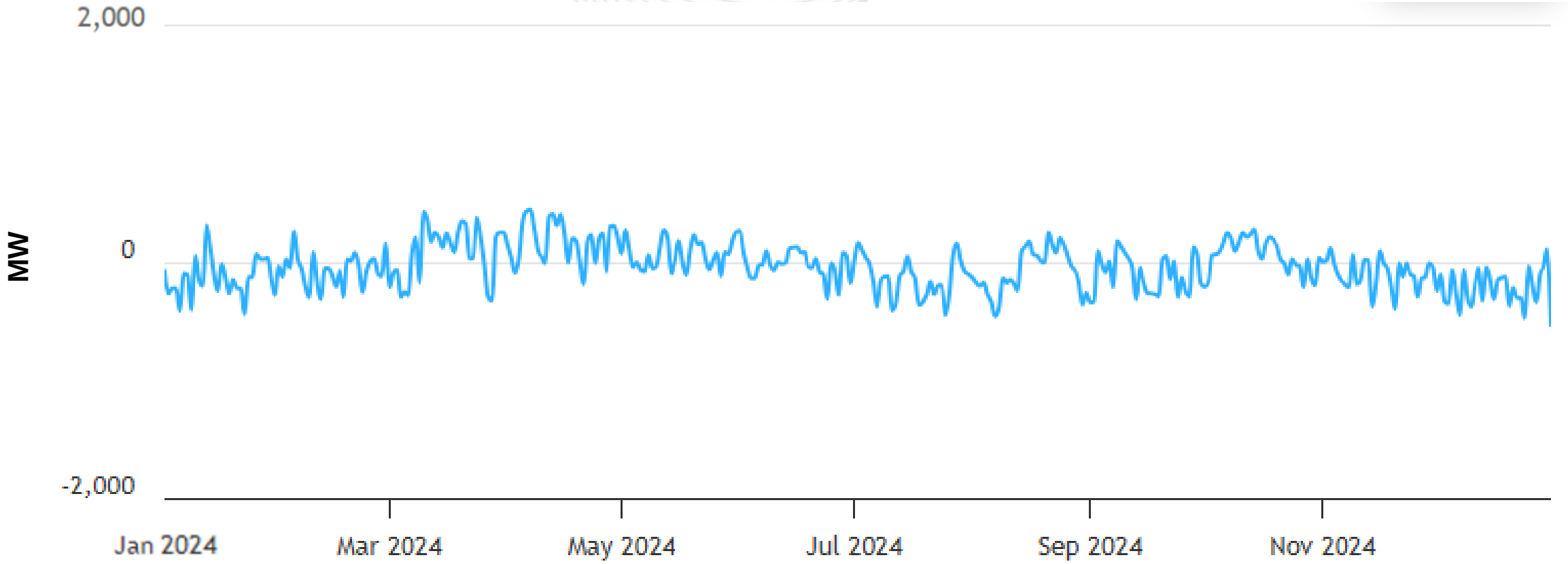
CAPACITY PERFORMANCE

Cleared MW (UCAP)

Resource Type	ANNUAL	SUMMER	WINTER
Generation	128,114.5	45.0	448.0
DR	5,942.4	122.3	-
EE	1,179.1	280.7	-
PRD	210.2	-	-
Total (MW)	**135,446.2**	**448.0**	**448.0**

North Carolina – Net Energy Import/Export Trend

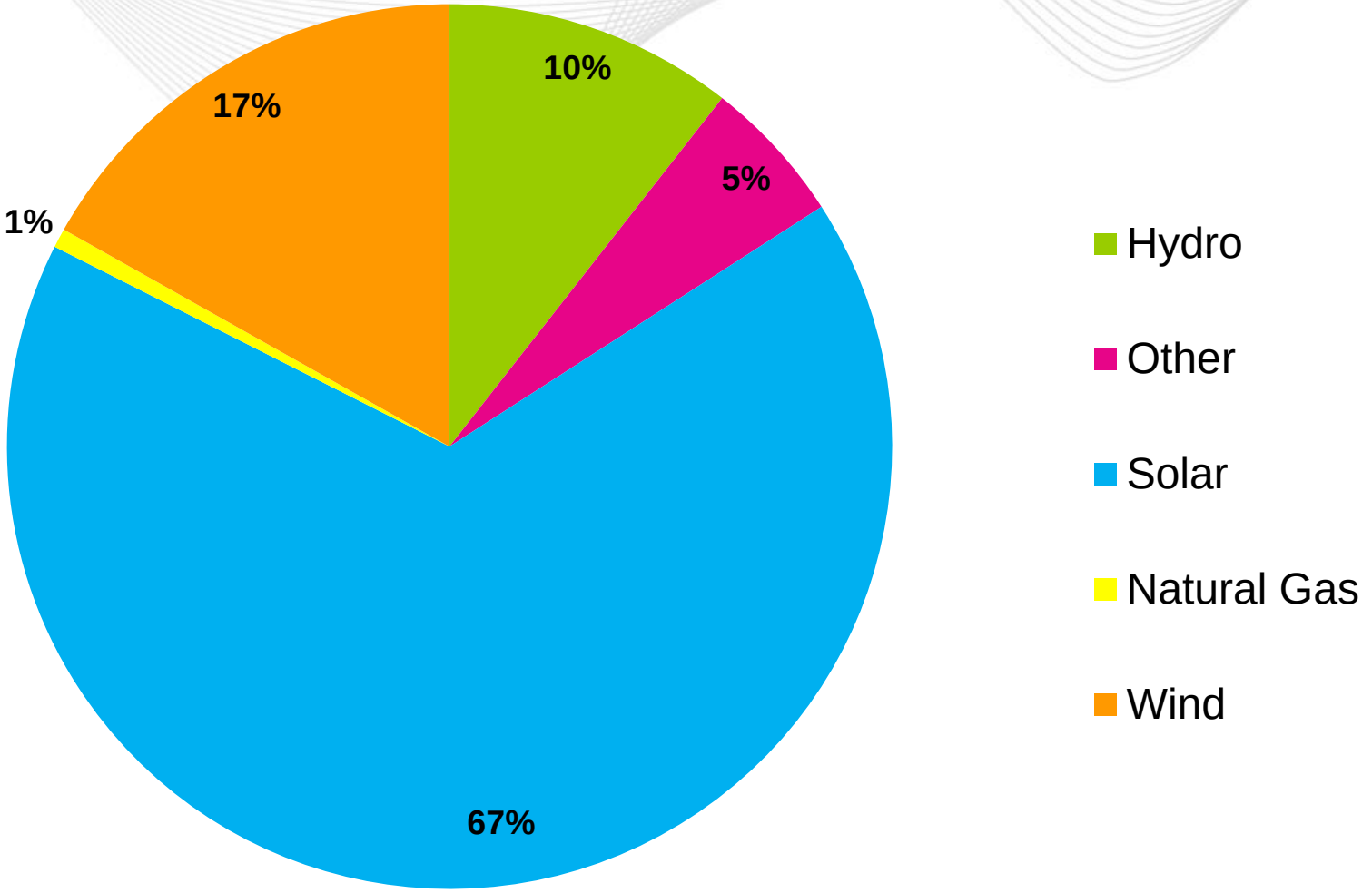
(Jan. 2024 – Dec. 2024)



This chart reflects the portion of North Carolina that PJM operates. Positive values represent exports and negative values represent imports.

Operations

North Carolina – 2024 Generator Production



The data in this chart comes from EIA Form 923 (2024) and represents only generators within the PJM portion of North Carolina.

PJM System Average Emission Rates